“THE LAST LEAF” FOR SOPRANINO SAXOPHONE: A PERFORMANCE GUIDE AND INTERVIEW WITH CHAYA CZERNOWIN

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Despite being one of the instruments outlined in Aldophe Sax's original patent for the saxophone, and commercially available since 1849, the sopranino saxophone was generally unaccepted as a fully-fledged instrument until the late 20th century, existing solely as a novelty or a rare member of the saxophone ensemble. As such, there are few saxophonist who utilize the instrument, and the literature for the sopranino saxophone exists primarily in the contemporary idiom. Of the contemporary works for sopranino saxophone, one of the most well-known pieces is Chaya Czernowin's *The Last Leaf* (2011/12). While Czernowin initially conceived this work for solo oboe, she subsequently arranged a version for sopranino saxophone. Since then, it has been performed many times and recorded by several saxophonists including Ryan Muncy and Patrick Stadler. Through an examination of the score utilizing a variety of sopranino saxophone-centric contemporary resources alongside an interview with Czernowin herself, this dissertation provides the first extant performance guide to the sopranino saxophone edition of *The Last Leaf*, with the purpose of providing any saxophonists wishing to attempt this work with the information of Czernowin's intention for the piece and how to implement the techniques necessary for a performance.

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INTRODUCTION

Despite being one of the instruments outlined in Aldophe Sax's original patent for the saxophone, and commercially available since 1849,[1] the sopranino saxophone was generally unaccepted as a fully-fledged instrument until the late 20th century, existing solely as a novelty or a rare member of the saxophone ensemble.[2] As such, there are few saxophonists who utilize the instrument, and the literature for the sopranino saxophone exists primarily in the contemporary idiom.[3] Of the contemporary works for sopranino saxophone, one of the most well-known pieces is Chaya Czernowin's *The Last Leaf* (2011/12). While Czernowin initially conceived this work for solo oboe, she subsequently arranged a version for sopranino saxophone.[4] Since then, it has been performed many times and recorded by several saxophonists including Ryan Muncy[5] and Patrick Stadler.[6] Through an examination of the score utilizing a variety of sopranino saxophone-centric contemporary resources alongside an interview with Czernowin herself, this thesis will provide the first extant performance guide to the sopranino saxophone edition of *The Last Leaf*, with the purpose of providing any saxophonists wishing to attempt this work with the information of Czernowin's intention for the piece and how to implement the techniques necessary for a performance.

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[1] Jay C Easton, "Writing for Saxophones: A Guide to the Tonal Palette of the Saxophone Family for Composers, Arrangers and Performers" (D.M.A. diss., University of Washington, 2006), 89.

[2] Jay C Easton, "The Smaller Saxophones." *The Saxophone Journal* 29, no. 6 (July/August 2005): 54

[3] Ibid. 55

[4] Andrew Tham, "5 Questions to Chaya Czernowin (composer)" *I Care If You Listen*, December 6, 2012, https://www.icareifyoulisten.com/2012/12/5-questions-to-chaya-czernowin-composer/.

[5] Ryan Muncy, *Ho*t, 2013 New Focus Recordings.

[6] Ensemble Nikel, *A Decade: CD N*, 2017 self-published.

The Development of Sopranino Saxophone Literature

As an instrument for performance, the earliest history of the sopranino saxophone is shrouded in mystery. Although the initial patent for the saxophone included a technical outline for a sopranino, labelled no. 8,[7] and early method books such as those by Kastner included a 'Petit Saxophone aigu' in Eb[8] in the family, there are no early records of the instrument being utilized. Despite the fact that instrument was being manufactured it was not being composed for as a solo instrument, with some exceptions as a novelty in vaudeville,[9] and of course Ravel's notable and controversial use in *Bolero*.[10] It was not until Jean-Marie Londeix cemented the 12-voice saxophone ensemble in the late 1970's[11] that the sopranino found a consistent voice, though in general the sopranino was relegated by composers to simply providing the high tones in the ensemble. As such, the history of the instrument is closely entwined with that of the large saxophone ensemble, and much of the research mentions the sopranino saxophone only in passing. An exhaustive search uncovered just a single thesis specifically about the sopranino saxophone, written in 2015 by Argentinian saxophonist Alejandro Pablo Arturi.[12] This thesis does not address specific works, focusing instead on the general playing characteristics of the instrument and a bibliography of the works including sopranino, from large ensemble to unaccompanied. The writing and subsequent publication of this thesis speaks to the increasing

[7] Stephen Cottrell, *The Saxophone* (New Haven and London: Yale University Press, 2012), 51.

[8] Ibid., 55.

[9] Andrew Justin Allen, "The Symphonious Saxophone: A History of the Large Saxophone Ensemble with a Quantitative Analysis of its Original Literature" (D.M.A. thesis, University of South Carolina, 2013), 28.

[10] Paul Cohen, "A Brief History of the Sopranino," forward to *The Forgotten Saxophone,* by Farrell Vernon (Arizona University Recordings AUR CD 3136, 2007).

[11] Allen, "The Symphonious Saxophone," 48.

[12] Alejandro Pablo Arturi, "El Saxófon Sopranino: Características Técnico-Expresivas. Recopilación de un Repertorio Original" (B.Mus thesis, Argentina National University of the Arts, 2015).

interest that the sopranino saxophone has garnered in the recent decade. At the North American Saxophone Alliance (NASA) Biennial conference in 2018, no fewer than seven works for the sopranino saxophone in either solo or chamber music capacities were performed,[13] as compared to the 2016 NASA Biennial conference wherein no works for sopranino saxophone were presented.

Clearly, interest in the sopranino saxophone is growing. Unbeknownst to many of those currently gravitating to the sopranino, the instrument has had a long association with contemporary music. Early minimalist composer La Monte Young[14] improvised and performed on the sopranino saxophone, going so far as to modify the instrument with a double reed. Even jazz musicians and contemporary improvisators, such as Anthony Braxton, have gravitated to the instrument both for its novelty and expressive potential.[15] Despite this, there is a dearth of composed works for sopranino. Beginning in the 1980's some saxophonists such as Daniel Kientzy and Farrell Vernon began to commission a number of pieces for sopranino saxophone. Vernon states that personally he has commissioned over sixty works,[16] while Kientzy commissioned the first extant work for unaccompanied sopranino saxophone: Alain Fourchotte's *Digressions I* (1981).[17] However, the most recorded and performed work for sopranino saxophone is Chaya Czernowin's *The Last Leaf.*

[13] "2018 Conference Presenters," Saxophone Alliance, accessed August 24, 2019, https://www.saxophonealliance.org/assets/2018/2018-NASA-Conference-Presenters.pdf

[14] Keith Potter, *Four Musical Minimalists* (Cambridge: Cambridge University Press, 2000), 58.

[15] Cohen, "A Brief History of the Sopranino."

[16] Farrell Vernon, Forward to *The Forgotten Saxophone: New Music for the Sopranino.* Arizona University Recordings LLC: 2007.

[17] Arturi, "El Saxófon Sopranino," 46.

The Last Leaf

Composed in 2011, *The Last Leaf* was intended to be a gift for Peter Veale,[18] Australian contemporary oboist and author.[19] Czernowin initially had plans to develop the piece into a duet for oboe and sopranino saxophone,[20] but instead chose to rework the piece for sopranino saxophone alone. The saxophone edition was created for and with Ryan Muncy,[21] American saxophonist for the International Contemporary Ensemble.[22] Since its creation in 2011, the sopranino saxophone edition of *The Last Leaf* has been recorded by both Ryan Muncy and Patrick Stadler of Ensemble Nikel,[23] in addition to many live performances.

In a direct comparison between both editions of *The Last Leaf*, the oboe and the sopranino saxophone versions are almost identical. The greatest difference between the two versions is in some minor edition in effects, with the oboe version including several repeats and instances of fluttertongue in measures 344-349 and 354-360, which have been omitted from the sopranino saxophone version. This alteration creates a slight discrepancy between the two parts, resulting in the sopranino saxophone version being 11 measures shorter. Barring these slight deviations, the two pieces are written identically, but due to the innate transposition of the two instruments, the sopranino saxophone version has a sounding pitch of a major 6th higher. These alterations, though minor, create enough difference that Czernowin finds the two pieces to be "very, very different."[24]

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[18] Tham, "5 Questions for Chaya Czernowin."

[19] "Peter Veale," Ensemble Musikfabrik, accessed August 24, 2019, https://www.musikfabrik.eu/en/ensemble/members/peter-veale.

[20] Tham, "5 Questions for Chaya Czernowin."

[21] Ibid.

[22] "Bio," Ryan Douglas Murphy, accessed August 24, 2019, http://ryanmuncy.com/about.

[23] "Discography," Chaya Czernowin, accessed August 24, 2019, http://chayaczernowin.com/discography.

[24] Tham, "5 Questions for Chaya Czernowin."

CHAPTER 2

CHAYA CZERNOWIN

A Brief Biography

Born in Haifa, Isreal in 1957, Chaya Czernowin holds degrees from Tel-Aviv University, Bard College, and the University of California San Diego[1] in addition to further studies in Germany and Japan.[2] Currently, Czernowin is the Walter Bigelow Rosen professor of music composition at Harvard University, but has also held appointments at UCSD and the University of Performing Arts in Vienna. Czernowin also teaches at the summer Academy at Schloss Institute, the Tzlil Meudcan in Israel,[3] and at the Darmstadt Fereinkurse in Germany.[4] In addition to pedagogical accolades, Czernowin has been awarded numerous prestigious awards including: the Kranichsteiner Musikpreis (1992); composer's prizes from the Siemens Foundation (2003) and the Rockefeller Foundation (2004); fellowships at the Wissenschaftkolleg Berlin (2008) and the Guggenheim Foundation (2011), and many more awards and bursaries.[5]

Stylistically, Czernowin's music has been described as an impossible mix between Brian Ferneyhough's New Complexity and Giacinto Scelsi's surrealism.[6] Many of her large-scale operas are rooted in her Israeli heritage, utilizing Hebrew language in titles and libretti. Her compositions have been performed across the world by both large and small ensembles, orchestras, and opera companies. *The Last Leaf* was her first piece for solo performer.

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[1] Ronit Seter "Czernowin, Chaya," *Grove Music Online*, 2001, accessed August 24, 2019, https://libproxy.library.unt.edu:5982/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000052619.

[2] "Biography," Chaya Czernowin, accessed August 24, 2019, http://chaya Czernowin.com/biography/.

[3] Ibid.

[4] Seter, "Czernowin, Chaya."

[5] "Biography."

[6] Seter, "Czernowin, Chaya."

Chaya Czernowin in Conversation

The following interview occurred on May 22nd, 2019. There has been some editing for clarity.

AR: In your article "Teaching that which is Not There Yet," you state that "there is a basic mistake of equating all music and using the same ways of thinking and naming of things that are internally very different."[7] I completely agree with this statement. As a performer, one wouldn't approach Bach in the same way you would approach Glass for example. So I would like to examine what ways in which we can as you say: "treat [Czernowin] on [Czernowin]'s terms," particularly in regard to *The Last Leaf*, in terms of how your influences and extra-musical life affect your music.

CC: You know when you ask what your influences are, I'm not answering specifically to *The Last Leaf* because when you talk about these type of things like the way people approach your music, it's never just one piece, it's always a whole body of thinking, a whole body of sound, it's never one piece. So I will just answer more generally. When you ask what are your influences, you begin from the assumption that my influences are really important for me, and that I see myself as one in a row. To some extent it is true, and I can tell you that I was influenced by very many things, including non-musical things. But if you want to approach my music of its own accord then try to be in the now. If you want to read my music of its own accord, look into its own body. I think it's true for most composers that are important, not that I'm saying I am important, but you want to really treat it as what it is, and not immediately think about their influences. For example, there are so many influences in common between Schubert and Beethoven, but that's not the place where you would start when you come to learn them. Starting from that point for me is to not looking [sic] at the thing as what it is. Hopefully every individual composer has something individual to add to that river we call music, so I'd rather

[7] Chaya Czernowin, "Teaching that which is Not There Yet (Stanford Version)," *Contemporary Music Review*, Vol. 32, No. 4 (August 2012): 285.

look into the future as to what is special about that composer's work and not their influences, because influences immediately brand you into a kind of role, and then you aren't open to looking at things. It's like when people in America talk about 'that movie is a cross between Star Wars, and Love Story,' and that is a kind of form of standardizing. If everything is just a cross or synthesis between things, then where is the place for invention?

So now that we've cleared that, I would say for people to look at my music on its own terms would be for example not to look for things which are thematic development, not to look for amazing harmonic language. There is harmonic language in my pieces, there are places you could analyse harmonically and they would be very interesting, but actually there's something else which is not only technically musical or is not possible to analyse in pure musical terms, and to figure out what that thing is would be to treat my music on its own terms.

AR: What should a performer use to analyze your music if those aforementioned levels are not as important to you? If a performer came to your work from a traditional microscopic analysis first and foremost, would you consider that erroneous?

CC: When I say that you shouldn't analyse it in separate music parameters, but try to figure out what it's saying, what are the gestures, what is taking place energetically, what is taking place in terms of density of the movement, the color, the atmosphere. This is all written in music, I'm not trying to figure out theory and I'm not writing improvisation that is totally free, I do use that language. I don't know if it's erroneous, but maybe I should say that everybody should approach the work in the way they would like to. Everything is open, every reading is open, but the reading should base itself on what is in the score, and what emanates from the score. Not relating to my own music, but I was teaching in Vienna we had an exam, and one of the students came in speaking about Feldman's pieces from the last period as a form of developing variations. So he showed the thematic element, he showed how it developed and the

patterns, and when he left and we had to discuss I said that in my opinion this way of seeing is erroneous. And I consider this erroneous because I think Feldman would have turned in his grave if he had heard this. On the other hand, the student did make an argument, but I still consider it erroneous. However, I was the only one on the committee who thought so, and he passed.

AR: So would you place density, texture and atmosphere as the most important aspects of your music?

CC: No, I think that every piece is totally different. I think what is important in music is the freedom that enables me to create things that are in a way outside the area of music. Create objects, creating relationships between people to talk about things that the music can really enact and experience. And that experience is really individual, it's colored with my own perception and invention. I am not trying to add to the literature of music by writing more dances and songs. There is a song and dance element in my music, in every music there is, but I am also proposing to try and create music that is much more like real experiences.

AR: Many of your pieces have a root in works of literature: Pnima on a book by David Grossman, Shu Hai Practices Javelin on a series of poems by Zohar Eitan, and Infinite Now upon a combination of a short story by Can Xue, and a play by Luk Perceval. You state in the preface to *The Last Leaf* that the piece is inspired by a short story of the same name by O. Henry. In what ways did the text inspire you to write this piece?

CC: It's a beautiful story. At the time, I was writing this piece for Peter Veale, he was actually going through a life changing moment, and I just wanted to give it to him as a present. That's why I titled it that way. The piece starts like a shaking leaf in the wind, and you don't know if it will sustain or not. Then you discover that the leaf has a lot of power later.

AR: As these works are somewhat loosely based upon literature, do you think a literary or extra-musical analysis is an appropriate, or better tool for examining them?

CC: No, the analysis is really important, because it helps you understand what is done in a piece, how a piece syncs, and how a piece configures itself and why it behaves in a certain

way. That analysis, from my point of view I'm actually quite old fashioned, I believe it must be completely connected to the score. So when I analyse something I might be presenting ideas that are completely from outer space, but I can show you exactly what I mean, and what in the musical parameters creates that feeling that something is lending, but is foreign. I would show it melodically, harmonically, rhythmically and contextually. I'm not talking about applying literary analysis, I'm talking about a very musical and quite painstaking analysis of the musical elements. After you analyse and know what's happening there, maybe you have a thought of why it's there. That's the kind of analysis I believe in; 'why?' Not only to stick with the musical information itself, but also to try and understand its motivations and the reason it acts; why it is doing that here? And for the why, you have to get into a different plane or terrain inside the piece, which is much deeper.

AR: In an interview with Linda Dusman, you state that you begin with a node, and then compose in oppositions: "separate or integrate, merge or distinguish."[8] Is that node present in *The Last Leaf*? Or has it been removed, and the transformations are the piece?

CC: What do you think?

AR: I don't know! I can see how things grow and connect, but I can't single out a specific origin point.

CC: Right. You know I think with Linda Dusman I think we talked about a certain piece, which was actually my first mature piece, my Manoalchadia. I don't think I would say that I compose in a certain way, because I've been composing for so many years. It's like breathing. How could I always breathe the same way? It changes so much with time, not breathing, but composition just changes so much with time. No, I wouldn't describe *The Last Leaf* like that at all.

[8] Linda Dusman, "Chaya Czernowin: Conversations and Interludes," *Contemporary Music Review*, Vol. 34, Nos. 5-6 (2015): 465.

I think that *The Last Leaf* is all about perspective, you start with something that is very fleeting, its barely there. You have this kind of shaking leaf basically and you are looking at it, and then you realize that you have been so focused on it that you didn't notice that you were standing in a place where you can see something from very far away, and it's huge. When these long pitches come, you didn't know that they possible when you were looking at the little squiggles. So the piece in a way is set up to create a huge discrepancy between huge forces, the minute and the very, very large. Actually, this is where it becomes interesting, when it gets into the trill, think about what those trills are. The trills are quite long, and they repeat, and they have a kind of melody. The trills have the minute energy, and the really fluttering energy, but they are long, you know they stay forever. It's not even an integration, it's like a chemical merging of those two perspectives into one, and that one is not only a synthesis of the two forces but it suddenly becomes the harmony. That's the part that I like most in the piece. It's a section that is actually harmonic. It's melodic, but it also really benefits from its harmony because you have a pedal tone, and over the pedal tone you have intervals, so it's actually a harmony. And the melody merges into that kind of power that is going into eternity. I can't explain it, because it starts with a major third, and then it ends with a little bit more than a minor second. It becomes faster and more intense, and so I would call it a tunnel that becomes narrower and narrower, but more and more intense. That's what I call an analysis that has a lot of fantasy, but it's connected to the score, sewn onto the score.

AR: In that interview with Linda Dusman, you stated that you avoided traditional interpretation of counterpoint.[9]

CC: When I think about traditional counterpoint, I always think about discrepancies.

[9] Ibid.

You have one against the other, and I find different kinds of counterpoint. For example, one thing and then another thing that doesn't belong to the same world, or on the other side two things that are very close and they aren't exactly counterpoint to each other, they are just living together in a way that is very intricate, but they are not dialectic enough to create a counterpoint. So there are many ways to think about things that does [sic] not have to go to the hardened category of counterpoint.

AR: In your discussion of Shu Hai Practices Javelin (1996-97), you have stated that it was made up of "short segment[s] surrounded by silence,"[10] much like the beginning of *The Last Leaf*. Is silence an aspect of your counterpoint?

CC: I find it interesting that you call it counterpoint, can you explain that? I find that very nice.

AR: Well, if we consider that counterpoint is comprised of dialectic opposites, shouldn't the most extreme version of that be sound against silence? In that case, both silence and sound would be equal.

CC: I completely agree with you, about the pull and push between sound and silence, and seeing them as equal forces. I like that very much, and think you're completely on track. In the beginning of *The Last Leaf*, it is almost like the silence is a kind of canvas, but the line goes into the canvas and disappears in it, and it actually continues somewhere and then it comes up and is visible again. It's like the silence is fraught with energy, it's really not relaxed. The silence is a part of the vanishing quality, of the fleeting quality, you don't know when it comes back again. It's like when you see a fly and it's moving in the room. Sometimes it passes by you, and sometimes you have no idea where it is.

AR: Many of your other works are for the voice. Does this experience affect the way in which you compose for other instruments, specifically the saxophone?

[10] Chaya Czernowin, "The Primal, the Abstracted and the Foreign: Composing for Voice," *Contemporary Music Review,* Vol. 34, Nos. 5-6 (2015): 454.

CC: It does. Actually in my last opera which will be premiered in November (2019), the winds are breathing and using the air in order to create air that goes up or goes down, that is colored in different ways, and that is all very vocal. I've learned a lot from the voice, for every instrument.

AR: So should a performer of *The Last Leaf* try to convey more of a vocal quality to the piece?

CC: I think it's your prerogative, you can do with it what you want. You can make it into something alienated, like the long pitches which are actually kind of inhuman, they are not like somebody singing. Also the beginning, it's not like somebody singing, it has an otherness to it. But those small decisions are really for the performer to do. Otherwise I would have written 'think about this as if it is a song.'

AR: I wonder why you chose sopranino saxophone rather than the soprano? What about the sopranino saxophone sound draws you to it?

CC: Because the sopranino is very unstable, it's very hard to control. It makes things really hard to do, and then you get all kinds of surprises. Like a trill where another kind of sound comes in, or these impossible quarter-tones, you know? This is a really hard piece, and the sopranino really forces it to be even harder. If it would have been played on soprano, I think it would have been pretty terrible because it's already there, it's already been sung. But this is like you're singing through stones or something. The difficulty makes it much more appealing to me, and also to tell you the truth I just really love the sopranino.

AR: In your restructuring of the sopranino version from the oboe score, you chose to omit some musical content, and change some effects. Why did you choose to do this, rather than a direct transposition?

CC: It's been too long for me to exactly remember the details of what I changed, but at that time I worked with Ryan Muncy. Firstly, I knew I wanted the sopranino and not the soprano,

but when we were working together I saw that the instrument was changing the piece a little bit. The truth is that if I were to choose the soprano saxophone, it would have been very similar to the oboe. I decided to make this, and there are some changes, into really a different version of the piece. For oboe, the piece is more written in stone, it's straight, it's more decisive, and for sopranino the fleeting quality is much more present.

CHAPTER 3

A PERFORMANCE ANALYSIS OF *THE LAST LEAF*

In order to provide an in-depth performance analysis of *The Last Leaf*, we must first divide the piece into its constituent aspects. For the purpose of this paper, these aspects will be divided into technical and musical considerations. Technical considerations will outline the contemporary techniques required, as well as providing a methodology to implement the aforementioned techniques in order to best serve the performative demands of *The Last Leaf*. The section entitled musical considerations will analyze *The Last Leaf* using some of the terminology and techniques gleaned from the interview with Czernowin, in addition to providing some basis for interpreting the piece as a whole.

Technical Considerations

The Last Leaf is full of technical demands, made even more difficult due to the precision required to perform them on the sopranino saxophone. This is, as Czernowin states, one of the things that drew her to create the version of this piece specifically for sopranino saxophone. It does however, complicate matters for the performer, as many of the contemporary techniques that saxophonists have become familiar with throughout their careers need to be altered for use on the sopranino. While this thesis is not intended to be a manual to perform extended techniques, it is imperative that certain aspects of the piece be covered as they are instrumental to the success of the performance. These contemporary techniques are: quarter-tones, timbral trills, slap tongue, and circular breathing. It is important to note, as at the writing of the paper there are essentially two sopranino types available on the market,[1] that a performance of *The Last Leaf* is

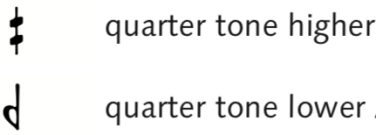
[1] Jay C Easton, "The Smaller Saxophones." *The Saxophone Journal* 29, no. 6 (July/August 2005): 55

only feasible on a sopranino saxophone with an appropriate mechanism up to a written f#[3] [2] and therefore all quarter-tones and timbral trills suggested by the author of this paper are intended for use with this type of sopranino.

Quarter-Tones

Quarter-tones are by far the most prevalent contemporary musical aspect in *The Last Leaf*. As the name implies, quarter-tones are notes that are exactly half way between the half steps that make up the chromatic scale. Czernowin denotes these quarter-tones using the following symbology.

Example 1: Quarter-tone symbology.

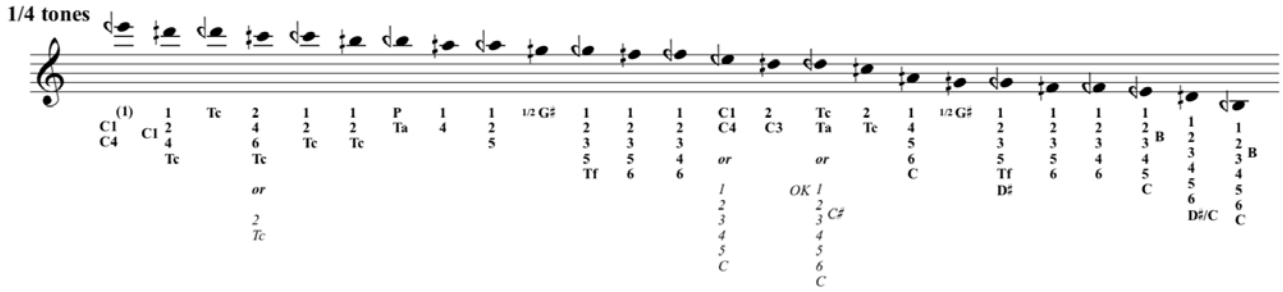


Due to the mechanical aspects of the instrument, all saxophonists must rely upon a series of altered fingerings in order to tune these micro-intervals. As one can expect, in *The Last Leaf*, use of these fingerings is paramount. Of the resource materials available, Jean-Marie Londeix's *HELLO! Mr. Sax*, is the only manual to include a fingering chart for quarter-tones specific to the sopranino saxophone.[3] Below is a collection of the quarter-tones required in *The Last Leaf*, in descending order. While many of these come directly from *Hello! Mr. Sax*, several fingerings are those suggested by the author of this paper, as discovered through trial on a sopranino saxophone. These fingerings have been denoted by an asterisk.

[2] All pitches are notated in written pitch, using the Hemholtz system, wherein middle C is described as c^0

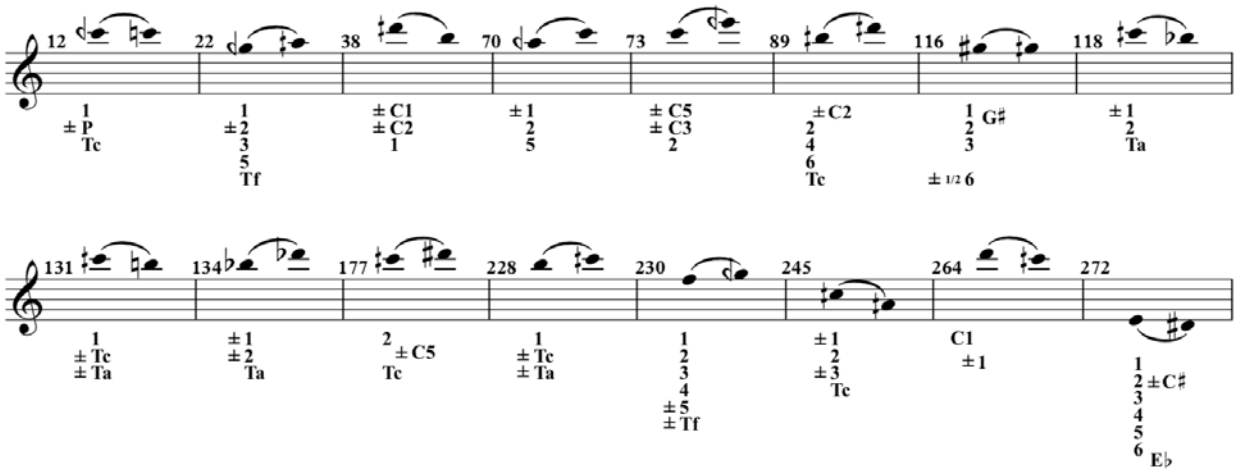
[3] Jean-Marie Londiex, *Hello! Mr. Sax* (Paris: Alphonse Leduc, 1989), 28-30.

Example 2: Required quarter-tones and suggested fingerings.



Due to the rapid nature with which the performer is required to execute these quarter-tones during the course of the trill or tremolo, in context not all of the above fingering selections are possible. Either the fingerings are too unwieldly, requiring too much motion to maintain the speed, or simply clumsy in the context of the pitches preceding. Therefore, the author of this paper has, through experimentation with several Selmer-style instruments, altered certain key quarter-tone intervals. They are as follows:

Example 3: Quarter-tone tremolos and suggested fingerings.



Of particular note are the G quarter-tone sharp and the low B. As neither of these has a specific fingering, these are what Czernowin has dubbed “impossible quarter-tones.” Regarding the G, Londeix merely states to use a ½ G#, which we can understand to mean depressing the G# key halfway. One of the most popular alternatives is provided by Marcus Weiss and Giorgio Netti, who suggest “[eliminating] the mechanical connection between *g#* and *c#*, as well as the

closing mechanism of the *G#* key."[4] While both of these solutions have merit, the author of this paper, implementing the latter suggestion on other saxophones, found that neither of them is particularly of use in this instance, due to several factors. Firstly, as sopranino saxophones are still somewhat of a rarity, many performers may be borrowing an instrument from a colleague or institution, whereupon physical alterations to the instrument would be frowned upon. Secondly, the musical parameters, a trill, inhibit the manners in which a saxophone can achieve the effect. Through experimentation, the author agrees with Londeix, with slight modification of only opening the G sharp key half way. On many saxophones, the G sharp key sits slightly above the low B key. The author has discovered through practice that by flattening the pinky and lowering the G sharp key until it comes in-line with the B key, there is a drastic improvement finding an accurate G quarter-tone sharp. This is necessary in passages where the G quarter-tone sharp serves in both a rhythmic and melodic/harmonic roles, such as in measure 234.

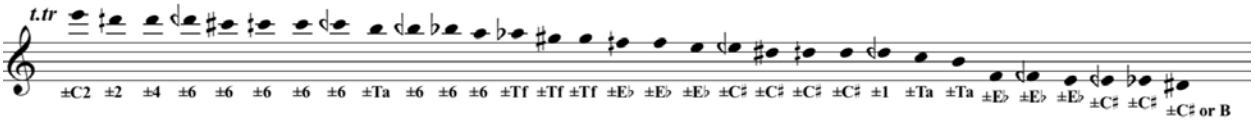
The low B from measure 251 is a cause of some concern. Not only does Londeix fail to include a fingering for sopranino, but none of the resources available have such a fingering for any of the saxophone family. Through much trial and error, this can only be achieved by playing a low B, and lowering it with the embouchure. This would be the obvious solution, save for the drastic dynamic changes Czernowin marks through the duration of the note. In order to maintain the lowered pitch and relaxed embouchure through the dynamic registers, the author of this paper suggests altering the angle of the instrument until it is directly against the performer's body. By tucking the instrument into one's chest and keeping the head at a natural angle, this both forces the embouchure to relax and diverts the air stream. This alteration allows for greater consistency in pitch throughout the duration of the note.

[4] Marcus Weiss and Giorgio Netti, *The Techniques of Saxophone Playing* (Basel: Bärenreiter, 2010), 15.

Timbral Trills

The second most required technique in *The Last Leaf* is the use of what Czernowin designates as timbral trills. Some saxophonists are likely to know these as *bisbigliando*. Londeix has a beautiful explanation of this effect, describing it as "soft, subtle and rapid, bringing the sound alive from within, without noticeably modifying the pitch."[5] On saxophone, this is one of the more simple contemporary effects to produce, through the rapid use of a non-essential key. Below are all the notes in *The Last Leaf* that require the timbral trill, with the respective fingerings found by the author of this paper to make the most sense within context, as well as being the most ergonomic. As the *bisbigliando* effect is a trill and therefore an alternation of a pitch, per Londeix's notation[6] the non-essential key is marked with a ± to denote the alternation of opening and closing.

Example 4: Timbral trills and suggested fingerings.



Slap Tongue

The slap tongue is often described in one of three ways. These are outlined by Weiss and Netti as the open, standard, and secco slaps.[7] During the course of *The Last Leaf,* only the standard and secco slaps are required. The standard slap only occurs twice, in measures 56 and 77, marked *sfz* and *mp* respectively. Otherwise, all the slaps in *The Last Leaf* are marked to be

[5] Londiex, *Hello! Mr. Sax*, 46

[6] Ibid.

[7] Weiss, *The Techniques of Saxophone Playing*, 142-143.

both *pp* and with the direction "as short as possible," as seen in measure 8 and again in the lengthy slap tongue section beginning in measure 149.

Weiss and Netti describe the secco slap as "an almost pitchless, dry, 'wooden' sound,"[8] with a dynamic range of between *pp* and *mf*, perfect for *The Last Leaf*. One achieves this sound through the same mechanism as the standard slap, by creating a small vacuum between the tongue and the reed and thereby drawing the reed away from the mouthpiece.[9] A standard slap sound is the result of by the reed releasing from the tongue's vacuum and hitting the tip-rail of the mouthpiece, along with a small push of air from the performer. The secco slap removes the push of air from the procedure. This in turn removes any amplification the slap may have received, allowing only for the resonance of the instrument. Due to the sopranino's small tube length, there is very little natural resonance to the instrument. As a result the secco slap results in more of a 'tapping' sound than a traditional slap.

Circular Breathing

Use of this technique in *The Last Leaf* is of some interest. It is entirely possible to perform this work without the use of circular breathing. However, during the interview, Czernowin describes the long pitches as "inhuman." This description is supported by the direction in the score to "maintain solid unchanging dynamics" on the d^1 in measures 143-148, the first time a sustained pitch occurs in the piece. As such, the author of this paper suggests utilizing the circular breathing technique to remove the natural decay that occurs when a performer is reaching the end of their breath. Done well, circular breathing allows for the strong

[8] Ibid. 143.

[9] Jean-Denis Michat, *Un Saxophone Contemporain* (Self-published, jdmichat.com, 2010), 29.

sustained pitches to have an effect similar to that of a sine wave, unchanging and seemingly indefinite.

In order to successfully create this effect, the saxophonist must turn a four-step technique into a fluid mechanism. First, the saxophonist must fill their cheeks with air. They must then cease the diaphragmatic exhalation while using the aforementioned air stored in their cheeks to continue to vibrate the reed. The saxophonist must then inhale through the nose, while simultaneously sustaining the tone with the air being forced from their cheeks. Finally, after refreshing the air supply, the diaphragmatic exhalation can resume.[10]

Difficulties which arise in this technique are exacerbated by its execution on the sopranino saxophone. Uneven tone, dynamics, and intonation can be the result of an ineffective technique. Due to the small size of the sopranino mouthpiece, any deviation in embouchure, from lip pressure to tongue position, is immediately noticeable.[11] In addition, due to the extreme dynamic Czernowin demands any irregularities in the breath will affect the volume of the pitch. To combat these tendencies, the performer must be an expert in circular breathing as many fast, shallow inhalations will serve to disrupt the dynamics and intonation of the sustained pitch than a single large circular breath. If it is not possible to create a steady tone with the addition of circular breathing, the author of this paper suggests shortening the duration of the held pitch to as long as the performer can sustain it, in favor of the dynamic effect.

Practice Strategies

Before moving to the musical analysis, the performer must have a complete grasp on the aforementioned techniques, as much of the structural musical material is actually comprised of

[10] Trent Kynaston, *Circular Breathing for the Wind Performer* (New York: Alfred Publishing Co., 1978), 6.

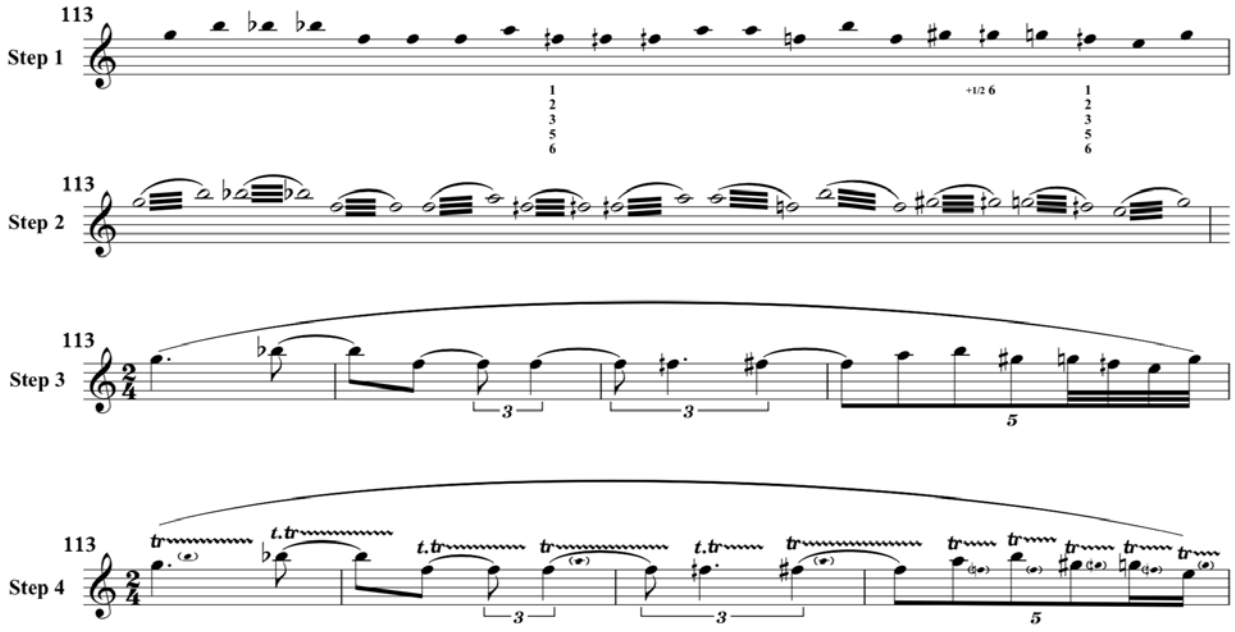
[11] Ibid., 12.

the different manners in which the techniques interact. It is therefore necessary for the techniques to be so integrated into the performer's musical language that they become affects rather than effects. This distinction is absolutely necessary in Czernowin's musical language, as a stated goal is to encourage the audience be in touch with their visceral experiences during the performance.[12] To this end, the 'contemporary technique' must be so integrated into the melodic language that the two are one and the same, affecting the listener as a cohesive unit. To ensure that the contemporary techniques are not merely layered on top of the melodic content, but integrated, it would behoove the saxophonist to approach the material in several steps. The following example outlines these steps using the same passage from *The Last Leaf*, measures 113-116. These measures were selected due to the intricacy of the quarter-tones, timbral trills, rhythmic density, and because they are one of the aforementioned places where the standard fingering for a trill (G sharp to G quarter-tone sharp) does not work.

The first step, as demonstrated in the example below, would be to practice the phrase without trills, either timbral or tremolo, focusing on learning the fingerings and the intonation tendencies of the quarter-tones. The second step would add in the tremolos, still without rhythm. It is imperative that the saxophonist feel confident with the technical performance of the timbral trills and quarter-tone tremolos of the second step before proceeding, as step three again removes the trills in favor of the addition of rhythm. Importantly, the last two trills of measure 116 are still included in step three, albeit in a rhythmic fashion, as this is how they are performed in context. The final iteration is to perform the phrase as it would be in context, with the simultaneous re-addition of trills, and the dynamics.

[12] Andrew Tham, "5 Questions to Chaya Czernowin (composer)" *I Care If You Listen*, December 6, 2012, https://www.icareifyoulisten.com/2012/12/5-questions-to-chaya-czernowin-composer/.

Example 5: Suggested practice method.



A more traditional approach would be taken when approaching circular breathing and slap tongue. While these techniques are difficult, and a saxophonist may feel confident performing them on another instrument, on sopranino these techniques become exponentially more difficult. This is due to the drastic size reduction between the sopranino and the rest of the saxophone family. Slap tongue will be affected by the small size of the reed on sopranino, and the reduced size of the mouthpiece in addition to the low register and extreme dynamic Czernowin demands will affect the use of circular breathing. To combat these innate difficulties of transferring these techniques to sopranino, the author of this paper would suggest a period of 're-learning' these techniques in the manner of an absolute beginner, starting with isolated slaps or circular breaths and striving for consistency before adding repetitions.

Musical Considerations

In order to completely understand and perform *The Last Leaf*, one must examine Czernowin's music using Czernowin's own language. As she states in the above interview,

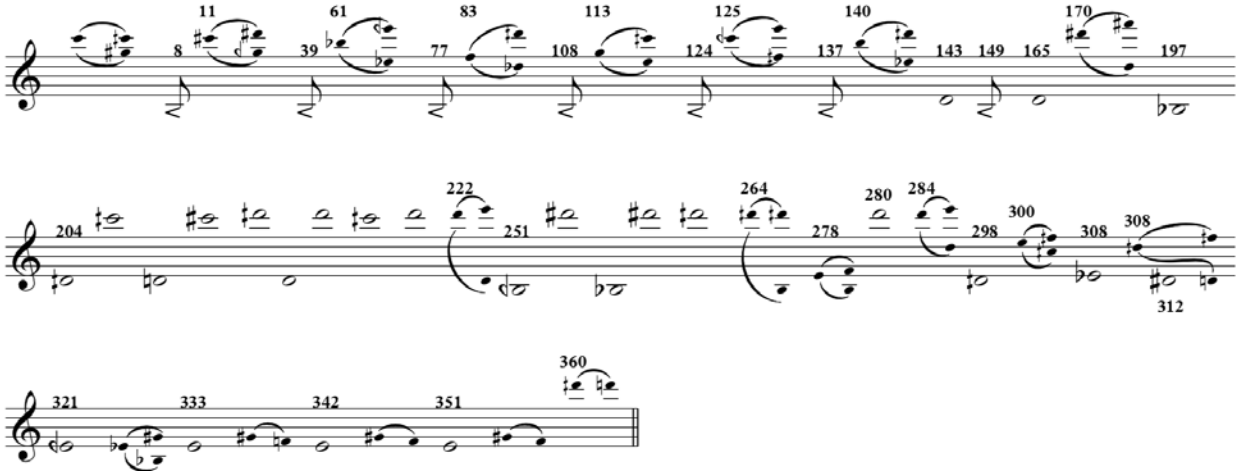
some, but not nearly all, of the most important facets of her musical language are density, texture and atmosphere. As such, we should consider these traits when learning and performing *The Last Leaf*. Yet, in the interview, she also states that we should not divide her music into isolated parameters, so we will also examine the ways in which the three general parameters form a musical narrative, both individually and through interaction.

Texture

The Last Leaf is comprised of three primary motifs, separated by "extremities of expression and *instrumental* expression,"[13] which begin completely separate and, through the workings of the piece become fused. Each of the motifs can be characterized by a different texture. The first is the fast, fluttering motif which consists of both intervallic and timbral trills at a soft dynamic, the second is the repeated slap tongue, and the third are the low, strong, sustained pitches. In order to track the interactions between the aforementioned textural materials, they will referred to as motifs A, B, and C respectively, as this is the order in which they appear in the score. The motifs each begin in vastly different spectrums, with motif A beginning in the upper register and motif C beginning in the extreme lower register of the saxophone. As the piece progresses, Czernowin brings the two motifs together until they meet on an e^2 in the final iteration of motif C. The following example reduces the larger dimensions of the piece into the fundamental structure, allowing the performer to engage with the manner in which Czernowin brings the two themes together.

[13] Tham, "5 Questions for Chaya Czernowin."

Example 6: Reduction of *The Last Leaf* into fundamental motivic structure.



The descending line of motif A (the black note heads) is tracked using the starting, highest, and lowest notes of each fragment. Combined we can see how Czernowin creates several descents, with some deviation, each progressing lower in register until motif A actually descends below motif C (the white note heads) in measures 324 to 333, even reaching the very lowest note capable on the sopranino saxophone in measure 329, as can be seen in the above example. After this, motif A returns to being above the pedal tone of motif C for the final material with motif C.

Motif B (the > note heads) exists on the extreme other end of the aural spectrum, as Czernowin isolates it completely from the material and textures. Consisting of a single effect (slap tongue) and pitch (b^0), motif B would appear to be somewhat of a point of fixation to which the music returns. It neither interacts, nor augments either of the other two motives.

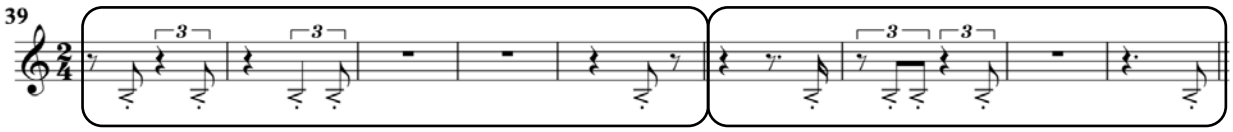
Density

Czernowin creates density in a variety of fashions including register, rhythm, and structure. As we see in the above example, motives A and C are combined through the course of *The Last Leaf*. The disparate registers coming together create a contrast in density between the

beginning of the work and the end. The further apart the registers, the less dense the texture and vice versa. Because the two motifs are also separated by dynamic contrasts, as they come together the density of dynamic variation also increases until the final hybridization which stretches from ‘as *p* as possible’ to *fff*.

Another aspect of density is that of rhythm. Motif B exemplifies the manner in which Czernowin treats rhythmic density. What begins as isolated material develops in increasing complexity and length until measure 149. As there is no pitch alteration or interaction with other motivic ideas, the only manner in which motif B develops is through rhythmic density. The best small-scale example of this appears in measures 39 to 47.

Example 7: Rhythmic density in motif B, mm. 39-47. (Annotations added by author.)



In this instance, the simplest concept of the musical material is four slaps, followed by a pause, and then a final fifth slap. The first instance is in measures 39 to 43, where the four slaps take a complete four beats, followed by a five-beat pause before the fifth and final slap. However, when the material immediately repeats, it is rhythmically diminished, with the four slaps taking just over two beats, and the pause taking shortened to a mere three and a half beats. Thus, Czernowin diminishes the first phrase by almost three complete beats. Because of the removal of rests, the material has both increased density, and the illusion of an increasing tempo.

This same approach to increasing density, wherein the space between fragments is shortened is also applied to motif A. The beginning of the piece features an isolated version of the motif, followed by eight beats of silence. The next two groups of silence become increasingly longer, 13 beats (mm. 15-20) and finally 16 beats (mm. 48-55). The next three groupings of

silence are 8 beats (mm. 57-60), 10 beats (mm. 78-82) and 14 beat (mm. 101-107) stretches. This is similar in the way that Czernowin treats the silence in the above example with motif B, wherein the silences are shortened in the second instance thereby creating more density. After the 14-beat silence ending in measure 107 that the vast stretches of silence cease, with the multi-measure rests reaching to only up to 6 beats at the longest.

Density is also achieved through extending passages. Motif B, which begins as a 3-note fragment is extended each time it appears, with more notes added in iteration. The following example demonstrates how the amount of pitches grows each time motif B occurs.

Example 8: Number of pitches in each iteration of motif B.

Measures	Number of pitches
8-9	3
39-40	4
44-45	4
108-109	5
124	6
151-153	11
154-158	20
159-164	17

As is evident from the above example, the number pitches in each iteration increase as the motif progresses through *The Last Leaf*. While there are moments when single slap tongues do not conform to the pattern, the author of this paper believes these to be aural reminders of motif B, so that the abrupt shift between the short 3 note passages and the extended passages in measures 151-164 are not so jarring. If reminders are removed from the general configuration, the pattern of growth in motif B is almost constant. While some of the divisions in the above example are obvious due to the many gaps between them, some have been grouped due to their rhythmic and musical properties. For example, the music in measure 153 could be grouped either with measures 151 and 152 or with 154-158. However, the rhythmic quality of measure 153 (two sixteenth-notes) has more in common with the preceding sixteenth-note grouping in measure 152

than the triplet and quintuplet rhythmic configurations which make up the following measures. Likewise, the septuplet over two beats in measure 158 shares more traits aurally and rhythmically with the triplet and quintuplet figures in measures 154-156 than the following material.

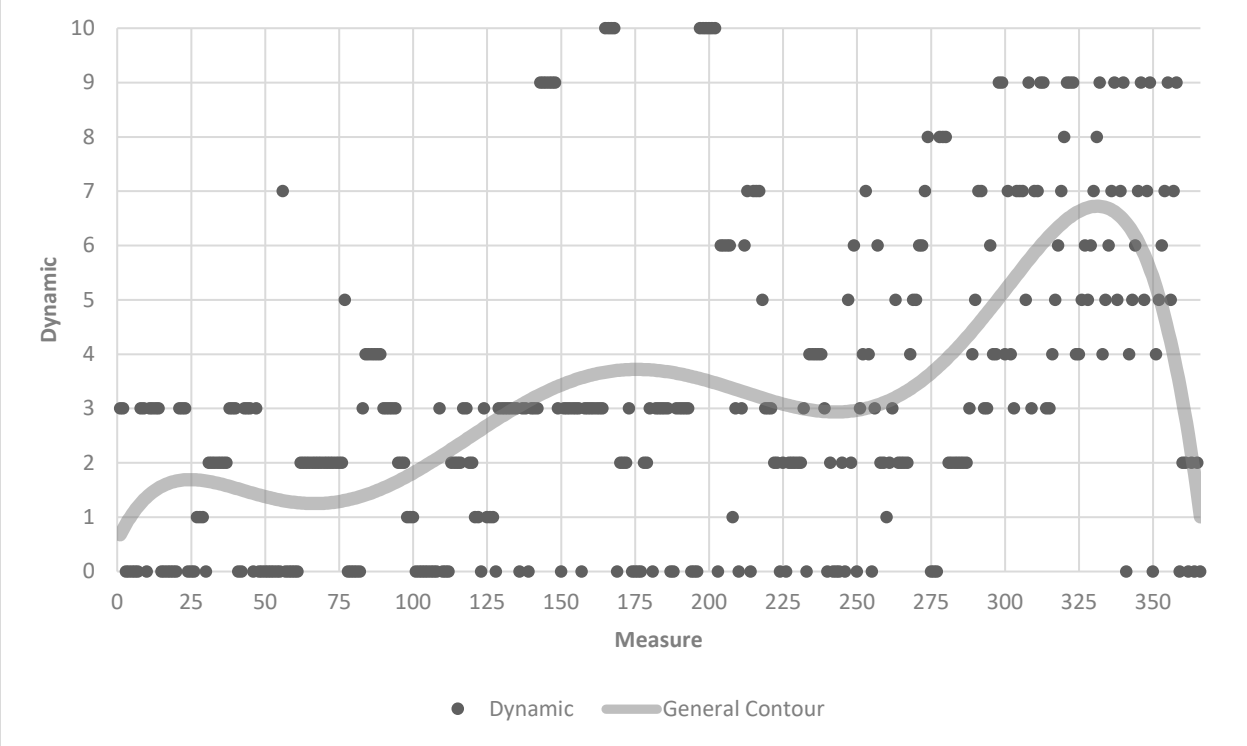
The final iteration of motif B is shorter by 3 notes than the preceding section in measures 154-158. While this is a deviation from the larger pattern, it fits into the musical whole of the piece. In an examination of measures 159-164, it appears to be one phrase in motif B; however, it is possible to view this as three micro-phrases within the whole. Each phrase is set up in relatively the same fashion: the antecedent is comprised of two sixteenth notes as on beat one in measures 161 and 162, and a single sixteenth in measure 159. This is answered by a grouping of either 2 or 3 notes in an alternating fashion, as in measures 160, 162 and 163/4. Each time the consequent material appears, it takes up more temporal space: from two thirds of a beat, to three quarters, to eventually a beat and a quarter. In this way, Czernowin is actually decreasing density by slowing down the rhythmic material. The sixteenth notes in measure 164 carry the most import of the phrase, as they can be interpreted as the final consequent of the entirety of motif B. By examining the manner in which the pattern alternates between groupings of 3 and 2 notes, the 2 slaps in measure 164 would fit within the pattern as a member of the consequent, despite the almost 2 beat silence which precedes it. This moment divides the interpretative aspects of the performer, allowing them to choose between two interpretations; whether they hear the final passage of motif B as dying away in measure 164, whether the material was interrupted by the sudden arrival of new material (motif C).

Atmosphere

Atmosphere is possibly the hardest of the Czernowin's criteria to examine, as it is as

much a part of the performance as the music. The most concrete manner in which to examine atmosphere from the score is in the context of dynamics. However, as Czernowin tends to group dynamic and texture together (i.e: motif A generally being at soft dynamics, motif B being only soft dynamics, and motif C being comprised of loud dynamics), this approach has a potential danger of becoming an analysis of texture rather than atmosphere. As atmosphere, it is a much slower process in *The Last Leaf* and therefore, we must track large scale dynamic contour of the piece, not only the small scale dynamics of each line.

Example 9: Dynamic contour of *The Last Leaf*.



Example 9 provides a visual representation of the dynamic contour of the piece. For this data set, each dynamic marking was assigned a value between 0 and 10, with silence assigned to 0, and each dynamic marking assigned from *pppp* (1) to *ffff* (10). By doing this, we can track the general dynamic contour of *The Last Leaf* through the piece, the shaded line. As is evident in the following example, the general dynamic contour of the piece grows before reaching a general

climax around measure 340, and plummeting at the end. It is notable that this graph does not take into account tempo shifts. For example, the material which reaches dynamic level 10 (*ffff*) in measures 165-168 and measures 197-202 are notated at quarter = 60 bpm, much slower than the preceding material which is marked at half = 100 bpm.

This graph is merely designed to be a tool by which a performer can visually track the general dynamic contour of the piece, and the way in which the dynamic develops. Yet, this is still useful for examining atmosphere through a general lens. In order to access atmosphere beyond basic dynamic contrast, the performer must also take into account the narrative of *The Last Leaf*. Czernowin describes the piece in her interview as "start[ing] like a shaking leaf in the wind, and you don't know if it will sustain or not. Then you discover that the leaf has a lot of power later." As is evident in the graph above, the piece follows that same contour, beginning at soft dynamics with a great deal of silence between each phrase, before slowly reducing the silence and gaining dynamic strength as the piece goes on. As such, the atmosphere changes from light and fragile to more powerful and controlled.

Narrative Considerations

As Czernowin says, one should analyse her music based upon musical parameters and not literary analysis. Despite this, the present author believes strongly that an understanding of the narrative of the short story by O. Henry can only be beneficial to the performer, and is also reflected in the piece to a certain degree. In summary, the short story follows the illness and recovery of an aspiring painter named Johnsy, stricken by pneumonia. In her illness, she tells her friend Sue that she will die when the ivy outside her window loses its last leaf. In concern, Sue tells this to their downstairs neighbor, Behrman, an old painter who scoffs. Over the next two nights, storms beat against the building, yet the last leaf clings to the ivy plant, to which Johnsy

takes heart and begins to recover. When the doctor checks on Johnsy, he tells Sue that during the nights, Behrman took ill from pneumonia and died. At this point Sue looks out the window to find that the last leaf on the ivy was in fact painted by Behrman, and proclaims it his masterpiece.[14]

As Czernowin states in her interview, the piece is about the move from a fragile state to discovering that the same leaf has a lot of power. If we overlay the plot of the short story of *The Last Leaf* over the piece by Czernowin, we can see many narrative similarities in both a macro and microscopic scale. The narrative of something fragile gaining power and strength can be applied to both Johnsy and the leaf itself. Johnsy, as a sick woman regaining her health through regaining hope, and the leaf for clinging to the tree through two nights of storms. However, as Czernowin refers to the leaf as the thing gaining power, and not the character of Johnsy, we must defer to the composer's intent. Therefore, the author of this paper posits that the musical content of *The Last Leaf* takes place over the course of the first night in the story, during the storm. Motif A takes on the role of the leaf, and motif C that of the wind. While at first the two seem to be polar opposites, as discussed previously, the more the leaf interacts with the wind the more strength it gains, until the wind itself surrenders to the leaf; when motif A crosses motif C in measures 324-332 and we never hear a clear iteration of motif C again.

If motif A is the leaf, and motif C the wind, motif B therefore can be many things. However, as it precedes the introduction of motif C, the present author would posit that motif B is foreshadowing for the storm. Not unlike motif C, motif B consists of one pitch repeated for vast stretches of time. Despite this, the texture of the motif is light and it retains a dynamic range similar to that of motif A. With this blending of aspects of the two motifs, the audience retains

[14] O. Henry, *100 Selected Stories* (Herfordshire: Wordsworth Editions, 1995), 178-183.

the sense of unease, which leads to the feeling of apprehension or foreshadowing. Another reason that motif B can be interpreted of as foreshadowing is due to its eventual disappearance from the musical language of *The Last Leaf*. The texture that constitutes motif B ceases after measure 164. Notably this is between the first two iterations of motif C in measures 143-148 and 165-168 respectively, at which point we can interpret that the storm has arrived in full force.

Therefore, it is an easy enough task to superimpose the general narrative of O. Henry's short story on the piece by Czernowin. Motif A symbolizes both the last leaf of the ivy and the sick woman Johnsy, beginning both frail and insubstantial, dipping in and out of silence and thereby consciousness. As the storm begins with the introduction of motif B, the leaf and motif A become more agitated, coming through the silence with more frequency. Finally as the storm arrives in full force with motif C, the leaf is at first fragile retaining a quiet dynamic, before realizing its own strength and integrating the power and dynamic of motif C into motif A. Interestingly, Czernowin's piece ends with a short recapitulation of motif A, one which dies away rather than growing in strength. This is perhaps meant to represent the character of Behrman, the elderly painter who sacrifices himself to paint the last ivy leaf on the wall, a musical reminder of the ephemeral fragility of life.

CHAPTER 4

CONCLUSION

It is no wonder that Chaya Czernowin is a highly sought after and acclaimed composer. Her pieces have both musical and emotional depth, demanding that the performer and listener to be both analytic and sensitive. Such detailed study is rewarded in *The Last Leaf*, wherein the performer can analyse many aspects of the piece: from the saxophone techniques Czernowin employs in order to create affect, the musical structures in which Czernowin manipulates parameters such as density, texture, and atmosphere, and even the narratological manners which guide the concept of the piece. All these facets come together in a compelling and rich tapestry which guides the saxophonist and listener through a story of realizing one's own strength. Czernowin states that her goal with music is to have the listener experience something visceral through the performance,[1] a goal she more than achieves in *The Last Leaf* through the many layers we have examined in this thesis. As *The Last Leaf* is one of her few unaccompanied works, and with the growing interest in the saxophone community with sopranino saxophone, it is my hope that this piece is performed often, and that this thesis serves as a foundation for the study of *The Last Leaf* in many capacities.

Suggestions for Further Study

As mentioned in the introduction, literature and performances on the sopranino saxophone are more prevalent now than through the entire history of the instrument. With saxophonists commissioning more pieces than ever before, there are more opportunities for analysing both early and new works for unaccompanied sopranino saxophone. It would be

[1] Andrew Tham, "5 Questions to Chaya Czernowin (composer)" *I Care If You Listen,* December 6, 2012, https://www.icareifyoulisten.com/2012/12/5-questions-to-chaya-czernowin-composer/.

worthwhile for a scholar to analyse the earliest extant piece for unaccompanied sopranino saxophone, Alain Fourchotte's *Digressions I* (1981), as it is so rooted in Daniel Kientzy's multiphonic technique. Another avenue for exploration would be an analysis of Ermir Bejo's *Opus 7b* (2018), a piece commissioned by the author, which pushes the boundaries of range on the sopranino up to an altissimo b^3. In addition, there are many other aspects of contemporary sopranino performance that would be worthwhile scholarly pursuits, including sopranino saxophone in small ensembles, with piano, and even with electronics.

In addition, Chaya Czernowin's compositions include a great amount of material for the saxophonist to examine. Some compositions which feature saxophone are *Die Kreuzung* (1995) for chamber ensemble with alto saxophone, *Pnima… Inwards* (1998-1999) an opera with a saxophone in the orchestra, *Sahaf* (2008) for chamber ensemble with baritone/sopranino saxophone, *Five Action Sketches* (2014) for chamber ensemble with tenor saxophone, and *Heart Chamber* (2019) an opera with baritone/sopranino saxophone soloist. Any of these pieces or a combination of them would be well worth any saxophonist's scholarly pursuit and performance.

BIBLIOGRAPHY

Allen, Andrew Justin. “The Symphonious Saxophone: A History of the Large Saxophone Ensemble with a Quantitative Analysis of its Original Literature.” D.M.A. thesis, University of South Carolina, 2013.

Arturi, Alejandro Pablo. “El Saxófon Sopranino: Características Técnico-Expresivas. Recopilación de un Repertorio Original.” B.Mus thesis, Argentina National University of the Arts, 2015.

Cohen, Paul. “A Brief History of the Sopranino.” Forward to *The Forgotten Saxophone,* by Farrell Vernon. Arizona University Recordings AUR CD 3136, 2007.

Cottrell, Stephen. *The Saxophone*. New Haven and London: Yale University Press, 2012.

Czernowin, Chaya. *The Last Leaf: for sopranino saxophone.* Germany: Schott Music, 2013.

Czernowin, Chaya. *The Last Leaf: for oboe.* Germany: Schott Music, 2011.

Czernowin, Chaya. “The Primal, the Abstracted and the Foreign: Composing for Voice.” *Contemporary Music Review,* Vol. 34, Nos. 5-6 (2015): 446-463.

Czernowin, Chaya. “Teaching that which is Not There Yet (Stanford Version).” *Contemporary Music Review,* Vol. 32, No. 4 (August 2012): 283-289.

Dunsman, Linda. “Chaya Czernowin: Conversations and Interludes.” *Contemporary Music Review,* Vol. 34, Nos. 5-6 (2015): 464-477.

Easton, Jay C. “The Smaller Saxophones.” *The Saxophone Journal* 29, no. 6 (July/August 2005): 52-55

Henry, O. *100 Selected Stories.* Hertfordshire: Wordsworth Editions Limited, 1995.

Kynaston, Trent P. *Circular Breathing for the Wind Performer*. New York: Alfred Publishing Co., 1978.

Londeix, Jean-Marie. *A Comprehensive Guide to the Saxophone Repertoire: 1844-2003.* New Jersey: Roncorp, 2003.

Londeix, Jean-Marie. *150 Years of Music for Saxophone.* New Jersey: Roncorp, 1994.

Londeix, Jean-Marie. *Hello! Mr. Sax.* Paris: Alphonse Leduc, 1989.

Mauk, Steven. “Teaching Students to Slap Tongue.” *The Saxophone Journal* 14, no. 1 (July/August 1989): 41, 64.

Michat, Jean-Denis. *Un Saxophone Contemporain.* Self-published, jdmichat.com, 2010.

Tham, Andrew. “5 Questions to Chaya Czernowin (composer)” *I Care If You Listen*, December 6, 2012. https://www.icareifyoulisten.com/2012/12/5-questions-to-chaya-czernowin-composer/

Potter, Keith. *Four Musical Minimalists.* Cambridge: Cambridge University Press, 2000.

Seter, Ronit. "Czernowin, Chaya." *Grove Music Online.* 2001; Accessed 24 Aug. 2019. https://libproxy.library.unt.edu:5982/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000052619.

Weiss, Marcus and Giorgio Netti. *The Techniques of Saxophone Playing.* Basel: Bärenreiter, 2010.

Discography

Ensemble Nikel, *A Decade: CD N*, 2017 self-published.

Muncy, Ryan. *Hot*. 2013 New Focus Recordings.

Veale, Peter. *The Last Leaf Solo - EP*. 2014 Ensemble musikFabrik.

Vernon, Farrell. *The Forgotten Saxophone: New Music for the Sopranino.* Arizona University Recordings LLC: 2007.